

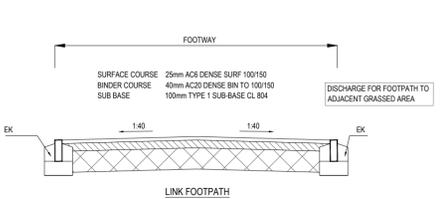
**FOUNDATION NOTE**

- CBR TESTS ARE TO BE TAKEN AT ROAD FORMATION LEVEL AT 20m INTERVALS USING A 600mm DIAMETER PLATE THE RESULTS OF WHICH ALONG WITH A LOCATION PLAN IS TO BE SUBMITTED TO HIGHWAYS ENGINEER
- IF IT MAY BE NECESSARY TO VARY THE FOUNDATION DESIGN TO ACCOMMODATE SIGNIFICANT CHANGES IN SUB-GRADE PROPERTIES ACROSS THE SITE, HOWEVER, THE FOUNDATION DESIGN SHOULD NOT VARY FREQUENTLY ALONG THE ROAD. ON SITES WHERE NUMEROUS CHANGES IN SUB-GRADE PROPERTIES ARE ENCOUNTERED, A DESIGN BASED UPON THE LOWEST CBR VALUE WILL OFFER PROVIDE THE MOST SATISFACTORY SOLUTION.
- WHERE A CBR VALUE BETWEEN THOSE IN THE ABOVE TABLE IS OBTAINED THE LOWER VALUE IN THE ABOVE TABLE SHALL BE USED FOR THE PURPOSE OF DESIGN.
- SUB-GRADES THAT HAVE CBR VALUES SIGNIFICANTLY LESS THAN 2% AND DEFORM UNDER CONSTRUCTION TRAFFIC MAY BE UNSUITABLE TO SUPPORT THE PAVEMENT. IN THIS CASE, SPECIAL MEASURES WILL BE REQUIRED. FURTHER ADVICE IS GIVEN IN DMS.
- MATERIALS USED IN CAPPING LAYERS SHALL COMPLY WITH THE SPECIFICATION FOR HIGHWAY WORKS TABLE B1 (AND ANY ADDITIONAL REQUIREMENTS AS THE COUNCIL). THE MATERIALS SHALL BE SAMPLED IN THE FREQUENCY STATED IN THE SPECIFICATION AND TESTED TO DEMONSTRATE THAT IT HAS AN IN-SITU CBR VALUE OF 15% (OR EQUIVALENT TEST RESULT). THE DEVELOPER SHOULD PROVIDE CONFIRMATION THAT THE TESTED MATERIALS COMPLY WITH THE REQUIRED SPECIFICATION.
- SUB-BASE SHALL BE TYPE 1 IN ACCORDANCE WITH THE SPECIFICATIONS FOR HIGHWAY WORKS.
- FOR PAVEMENT FOUNDATION DESIGN THE TOTAL PAVEMENT CONSTRUCTION BUILDUP FROM FINAL DESIGN SURFACE TO THE FORMATION IS TO BE 450mm IN DEPTH SUCH THAT THE MATERIALS SHALL NOT BE FROST SUSCEPTIBLE IN ACCORDANCE WITH HIGHWAY VOL. 1, SERIES 02, CL 7.
- ALL MADE GROUND TO BE REMOVED TO A DEPTH OF 3m.
- ALL KERBS TO BE LAD UPON 150mm MORTAR BED.
- ALL KERBS REQUIRE DOWEL BARS.

**PAVEMENT FOUNDATION DESIGN LOCAL RESIDENTIAL STREET / TRADITIONAL ESTATE ROAD**

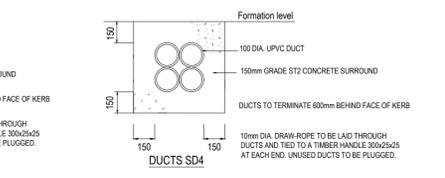
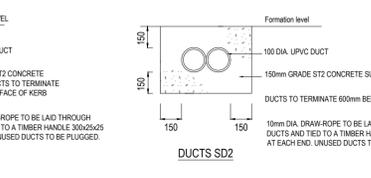
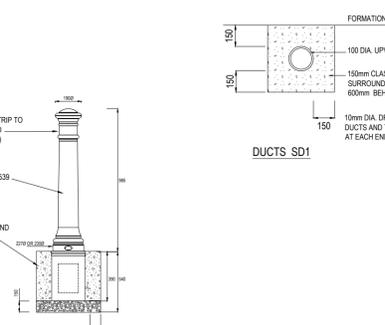
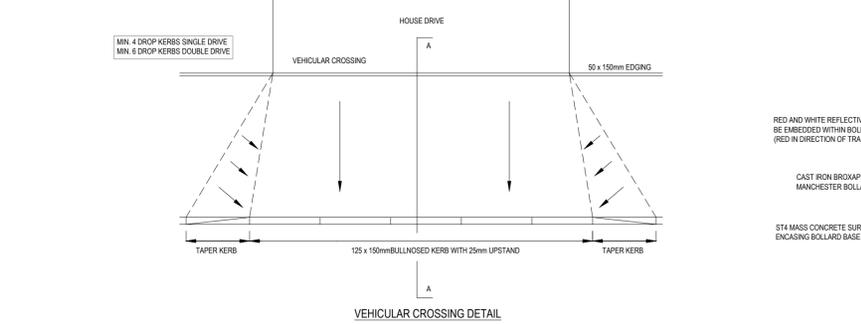
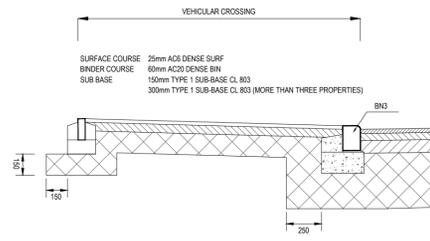
SUB-BASE ONLY	TYPE 1 DEPTH	GROUND REMEDIATION REQUIRED TO IMPROVE SUB-GRADE CBR	CBR %				
			<2.5	2.5 TO 3.0	3.0 TO 4.0	4.0 TO 5.0	>5.0
OR	OR	OR	450	400	370	330	280*
SUB-BASE ON CAPPING	TYPE 1 DEPTH	CAPPING DEPTH	350	320	280*	280*	280*
			250	240	230	210	150

\* MINIMUM REQUIRED TYPE 1 SUB-BASE DEPTH TO ACHIEVE 450mm OF NON-FROST SUSCEPTIBLE MATERIAL.



**GENERAL NOTES:**

- DO NOT USE THIS DRAWING IN ISOLATION. THIS DRAWING HAS BEEN PREPARED AS PART OF A SET AND MUST THEREFORE BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER PRIOR TO COMMENCING WORKS.
- THIRD PARTY INFORMATION IS USED TO PREPARE THE ENGINEERING DESIGN (INCLUDING ARCHITECTURAL LAYOUT, GROUND INVESTIGATION, EXISTING UTILITIES RECORDS, AND SPECIALIST DESIGN ITEMS). THE ENGINEERING DESIGN MUST THEREFORE BE READ IN CONJUNCTION WITH ALL THIRD PARTY INFORMATION PRIOR TO COMMENCING WORK. QUEENSBERRY DESIGN LTD ARE NOT RESPONSIBLE FOR ANY THIRD PARTY INFORMATION OR DETAILS.
- HOUSE TYPE WORKING DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE PLOT SETTING OUT DRAWING.
- DRAINAGE STATUS WILL REMAIN PRELIMINARY UNTIL FULL TECHNICAL APPROVAL IS RECEIVED FROM LOCAL AUTHORITY AND SEWERAGE UNDERTAKER. WORKS COMMENCED PRIOR TO TECHNICAL APPROVAL ARE DONE SO AT RISK AND MAY BE SUBJECT TO CHANGE. THE CONTRACTOR IS EXPECTED TO PREPARE APPROPRIATE CONSTRUCTION METHOD STATEMENTS FOR ALL ASPECTS OF APPOINTED WORK. THIS SHOULD INCLUDE ANY TEMPORARY PROTECTION WORKS.
- LAND DRAINAGE IS NOT PERMITTED TO DISCHARGE INTO THE PUBLIC SEWER NETWORK ANY NEED FOR LAND DRAINAGE SHOULD BE ASSESSED BY THE GROUND WORKER AND LANDSCAPER DURING CONSTRUCTION AND PLACEMENT OF GARDENS ON AN INDIVIDUAL PLOT BASIS. IF LAND DRAINAGE DESIGNS ARE REQUIRED, THEY SHOULD BE APPROVED PRIOR TO PLOT COMPLETION.
- THE CONTRACTOR IS EXPECTED TO CROSS CHECK ALL DRAINAGE INVERTS PRIOR TO COMMENCING WORK. THIS MAY INVOLVE COMPLETION OF TRAIL HOLES IF INVERT LEVELS HAVE BEEN INTERPOLATED. THE POSITION, LINE AND DIAMETER OF ALL EXISTING DRAINAGE APPARATUS SHOULD BE CONFIRMED ON SITE PRIOR TO THE COMMENCEMENT OF THE WORKS. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR MUST MONITOR THE 'AS BUILT' PROGRESS OF EACH CONSTRUCTION STAGE. REASSESSMENTS OF WORKS ETC. TO EMULATE THE NEXT STAGES OF CONSTRUCTION TO BE CHECKED BEFORE INSTALLATION.



**HIGHWAYS**

- ALL HIGHWAY WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT LOCAL AUTHORITY DESIGN CODE AND SPECIFICATION.
- ALL EXCAVATIONS BELOW PROPOSED AND EXISTING HIGHWAYS TO BE BACK FILLED WITH GRANULAR TYPE 1 SUB-BASE AND WELL COMPACTED IN LAYERS NOT EXCEEDING 150mm.
- HIGHWAY AUTHORITY TO BE NOTIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORKS.
- FOR KERB LOCATOR REFER TO DRAWING QD1386-07-01.02.04.
- BEHIND LAYERS OF THE TARMACADAM ROADS A HOT TANK APPLIED BITUMEN TACK COAT IS REQUIRED IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS, AS FOLLOWS:
  - BINDER CLASSIFICATION AND APPLICATION DETAILS TO CL 520
  - THE BINDER SHALL BE BITUMEN EMULSION TO BS 84 PART 1
  - THE BINDER SHALL BE CLASS A1-40 OR K1-40
  - RATE OF SPREAD SHALL BE 0.3 TO 0.5MP
  - PRINTED ADDITIVE TO BINDER: NONE
  - BINDING MATERIAL: NONE
- WHERE CONCRETE KERBS ABUT TARMACADAM SURFACING IS TO BE PAINTED WITH A TACK COAT OF 200 PEN BITUMEN.
- WHEN WIDTH OF THE BASE OR SUB-BASE IS LESS THAN 1.0, CONCRETE MIX STS 25 NMM, SHALL BE USED. CONCRETE MIX TO VARY BETWEEN 20MM TO 10MM IN LEVEL OF SUB-BASE UNDER KERBS. THE TOTAL WIDTHS SHALL NOT BE LESS THAN TOTAL THICKNESS OF FULL CONSTRUCTION. 100MM SURFACING IS REQUIRED ON TOP OF THE STS CONCRETE MIX.
- ANY INSPECTION CHAMBERS WITH TACTILE CROSSINGS REQUIRE AN IN-FILL COVER WITH SLABS BEDDED ON AN EPOXY RESIN MORTAR.
- ALL VERGES TO BE LOW MAINTENANCE GRASS SEED MIX - BRITISH SEED HOUSES AZ2 (OR SIMILAR APPROVED)
- ALL STREET LIGHTING TO BE INSTALLED IN HARD MARGINS OR FOOTWAYS.
- WHERE DRIVEWAYS FALL TOWARDS THE ADAPTABLE HIGHWAY A LINEAR DRAINAGE CHANNEL ARE TO BE PROVIDED AT THE BACK EDGE OF THE FOOTWAY WITHIN THE DRIVEWAYS TO PREVENT DISCHARGE OF SURFACE WATER ONTO THE HIGHWAY.
- THE LAYOUT AND POSITIONS OF ALL PEDESTRIAN CROSSINGS ARE TO BE AGREED WITH HIGHWAY ENGINEER ON SITE.
- FOR MANHOLES / GULLIES / SERVICE BOXES ECT SOLID CLASS B ENGINEERING BRICKS ARE TO BE USED WITHIN THE ADAPTABLE HIGHWAY.
- MANHOLE COVERS REQUIRING ANTI-SKID PROTECTION TO BE RETROSPECTIVELY FITTED WITH PREMARK ANTI-SKID RESISTANCE MATERIAL TO BS 1436 CL 55

**VEHICULAR CROSSING SECTION A-A**

**VEHICULAR CROSSING DETAIL**

**BROXOP MANCHESTER BOLLARD**

**DUCTS SD1**

**DUCTS SD2**

**DUCTS SD4**

IN THE CASE OF NEW ROADS, DUCTS TO BE LOCATED BELOW FOUNDATION LEVEL. FOR EXISTING CARRIAGEWAYS, DUCTS MUST BE LOCATED 50mm BELOW THE SURFACE OF EXISTING CARRIAGEWAY (MEASURED TO TOP OF CONCRETE SURROUND) AND MARKED WITH DUCT MARKERS ON KERBS.

**VEHICULAR CROSSING SECTION A-A**

**VEHICULAR CROSSING DETAIL**

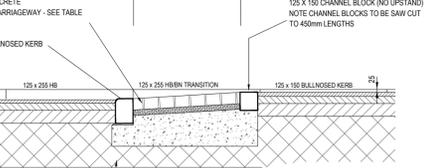
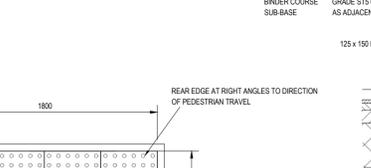
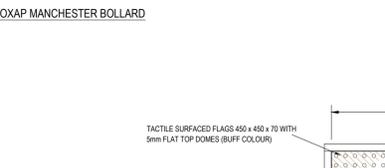
**BROXOP MANCHESTER BOLLARD**

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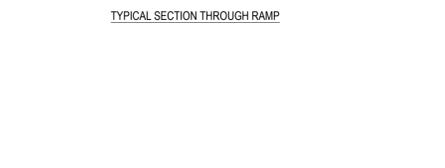
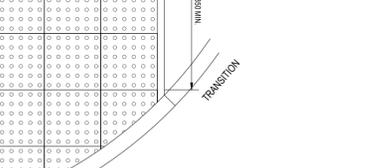
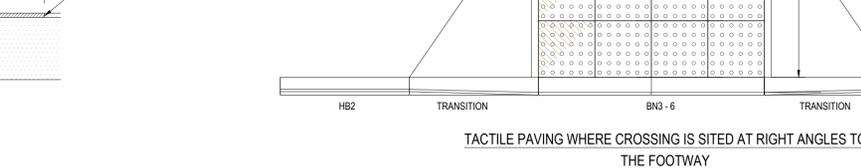
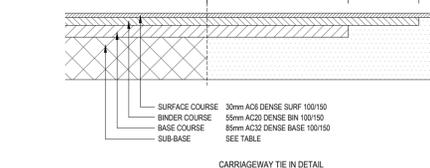
**CARRIAGEWAY TIE IN DETAIL**

**TACTILE PAVING WHERE CROSSING IS SITED AT RIGHT ANGLES TO THE FOOTWAY**

**TACTILE PAVING WHERE CROSSING IS SITED ON A RADIUS**

**TYPICAL SECTION THROUGH RAMP**

**TYPICAL SECTION THROUGH RAMP**



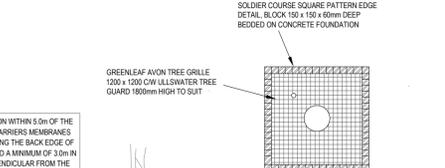
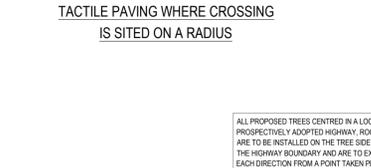
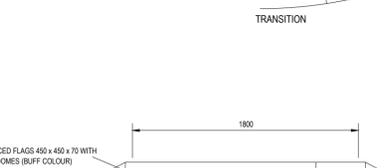
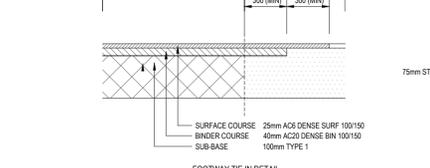
**FOOTWAY TIE IN DETAIL**

**TACTILE PAVING WHERE CROSSING IS SITED AT RIGHT ANGLES TO THE FOOTWAY**

**TACTILE PAVING WHERE CROSSING IS SITED ON A RADIUS**

**TYPICAL SECTION THROUGH RAMP**

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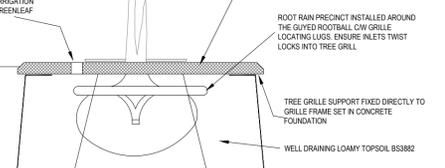
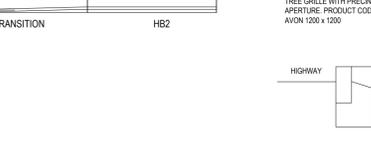
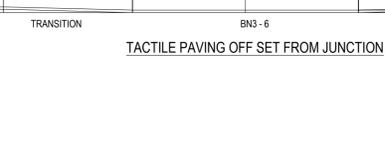
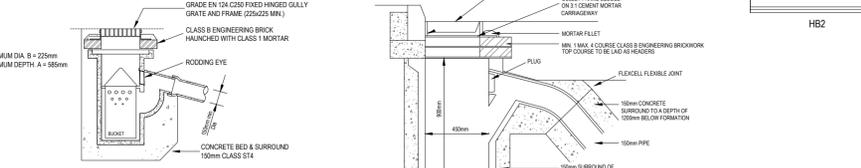
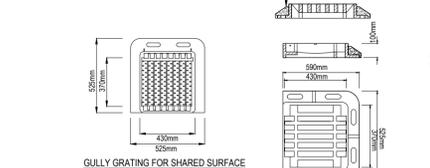
**FOOTWAY SUB-BASE**

**TACTILE SECTION**

**TACTILE PAVING WHERE CROSSING IS SITED ON A RADIUS**

**TYPICAL SECTION THROUGH RAMP**

**TYPICAL SECTION THROUGH RAMP**



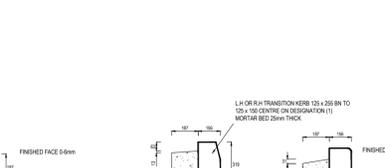
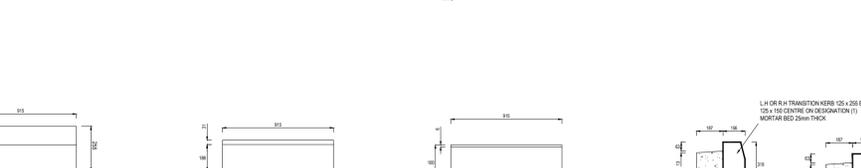
**GULLY GRATING FOR SHARED SURFACE**

**FOOTWAY GULLY DETAIL TO BE USED IN LINK FOOTWAYS ONLY**

**TACTILE PAVING WHERE CROSSING IS SITED ON A RADIUS**

**TYPICAL SECTION THROUGH RAMP**

**TYPICAL SECTION THROUGH RAMP**



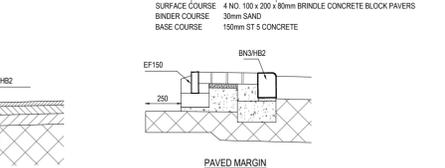
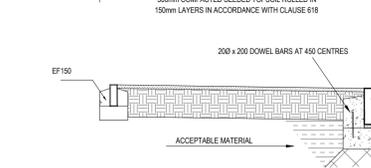
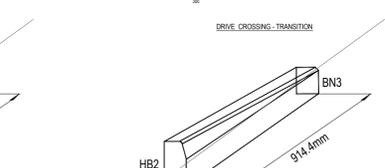
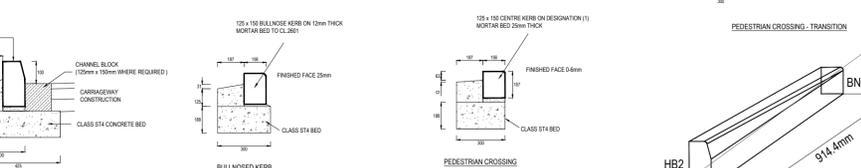
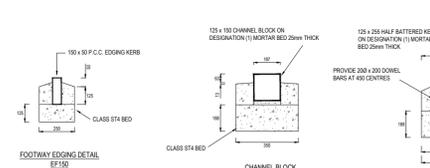
**GULLY GRATING & FRAME**

**FOOTWAY GULLY DETAIL TO BE USED IN LINK FOOTWAYS ONLY**

**TACTILE PAVING WHERE CROSSING IS SITED ON A RADIUS**

**TYPICAL SECTION THROUGH RAMP**

**TYPICAL SECTION THROUGH RAMP**



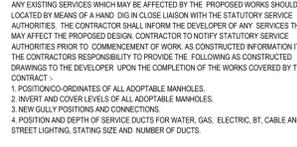
**FOOTWAY EDGING DETAIL**

**EXISTING SERVICES**

PRIOR TO THE COMMENCEMENT OF ANY WORKS UNDER GROUND MAPPING SURVEYS AND CONSTRAINTS PLAN IS TO BE REFERRED TO ANY DISCREPANCIES ARE TO BE REPORTED TO ENGINEER.

ANY EXISTING SERVICES WHICH MAY BE AFFECTED BY THE PROPOSED WORKS SHOULD BE LOCATED BY MEANS OF A HAND DIG IN CLOSE LIAISON WITH THE STATUTORY SERVICE AUTHORITIES. THE CONTRACTOR SHALL INFORM THE DEVELOPER OF ANY SERVICES THAT MAY AFFECT THE PROPOSED DESIGN. CONTRACTOR TO NOTIFY STATUTORY SERVICE AUTHORITIES PRIOR TO COMMENCEMENT OF WORK AS CONSTRUCTED INFORMATION IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE THE FOLLOWING AS CONSTRUCTED DRAWINGS TO THE DEVELOPER UPON THE COMPLETION OF THE WORKS COVERED BY THE CONTRACT -

- POSITIONS AND LEVELS OF ALL ADAPTABLE MANHOLES
- INVERT AND COVER LEVELS OF ALL ADAPTABLE MANHOLES
- NEW GULLY POSITIONS AND CONNECTIONS
- POSITION AND DEPTH OF SERVICE DUCTS FOR WATER, GAS, ELECTRIC, BT, CABLE AND STREET LIGHTING, STATING SIZE AND NUMBER OF DUCTS.



**TREE ROOT PROTECTION DETAIL (REQUIRED WHERE TREE IS LOCATED WITHIN 5.0m OF ADAPTABLE HIGHWAY)**

Rev	Date	Revision Details	Drawn	Checked
C	19.01.24	SECTION 38 COMMENTS ADDED - TREE PIT	ND	ND
B	21.04.23	UPDATED TO APPROVAL PLANNING LAYOUT	ND	ND
A	01.03.22	UPDATED TO NEW SITE DESIGN	ND	ND
-	14.02.22	FIRST ISSUE	ND	ND

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Project: **WESTGATE CLECKHEATON**

Title: **ROAD CONSTRUCTIONS DETAILS**

Drawn: **ND** | Checked: **ND** | Date: **14.02.2022**

Drawing Number: **QD1776-06-01**

Drawing Status: **APPROVAL** | Scale: **1:20 - A1** | Rev: **C**